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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

KACKAR, RAM N

ART UNIT PAPER NUMBER

1763

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/824,458

Applicant(s)

RAVI, KRAMADHATI V.

Examiner

Ram N. Kackar

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/14/05 & 7/14/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 7-9, 11-13 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Bukhman et al (US 5,795,493).**

Bukhman et al disclose a plasma etch tool (Abstract, Col 2, lines 32 – 34, Col 3 lines 24-35 and Fig 1-53) including, a depth measurer for a wafer (Fig 4-76) to measure a thickness of the exposed layer of a wafer and store a thickness profile (Fig 4-120) and to selectively remove a thickness in response to the measure thickness being greater than a specified thickness (Col 6, lines 1- 25). The substrate could be a silicon-on-insulator (SOI) substrate (Fig 5-40) including insulator oxide layer 20 and silicon layer 30 (Col 6 lines 1-10).

3. **Claims 7-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Stefani et al (US 5,399,229).**

Stefani et al disclose a plasma etch tool (Fig 1 and Col 2 lines 30-35) including, an ellipsometer for depth measurement for a wafer (Fig 1-20, Col 1 line 64 to Col 2 line 6 and abstract) to measure a thickness of the exposed layer of a wafer and store a thickness profile (Fig 2 and Fig 5) and to selectively remove a thickness in response to the measure thickness being

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greater than a specified thickness (Abstract and Col 2 lines 40-46). The substrate could be a silicon-on-insulator (SOI) substrate (Col 1 line 64 to Col 2 line 6).

4. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Arita et al (US 6,239,036).

Arita et al disclose a plasma etch tool (Abstract) where a thickness of silicon is formed on a silicon-on-insulator (SOI) substrate (Figs. 4A – 4E and Col 6, lines 4- 40) including insulator oxide layer 31a and silicon layer 31.

Claim Rejections – 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 10 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bukhman et al (US 5,795,493) in view of Hilfiker, “Spectroscopic Ellipsometry for Process Applications,” Solid State Technology, Vol. 39(10), p. 157 – 167 (1996).

Bukhman et al fail to teach measuring thickness by spectroscopic ellipsometry device.

Hilfiker teaches that Spectroscopic Ellipsometry is used for thickness measurements for the benefit of quick, accurate and nondestructive thickness measurements in the semiconductor industry in the introduction part in page 157 (page 1 of the print).

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Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to modify Bukhman et al and measure the thickness by Spectroscopic Ellipsometry for the benefit of quick, accurate and nondestructive thickness measurements as taught by Hilfiker in page 157 (page 1 of the print).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ram N. Kackar whose telephone number is 571 272 1436. The examiner can normally be reached on M-F 8:00 A.M to 5:P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571 272 1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ram Kackar
Examiner AU 1763